



CE
0102

Model Number

SJ5-N-Y293307

Features

- 5 mm slot width

Technical Data

General specifications

Switching function	Normally closed (NC)
Output type	NAMUR
Slot width	5 mm
Depth of immersion (lateral)	5 ... 7 mm , typ. 6 mm
Output polarity	NAMUR
Output type	2-wire

Nominal ratings

Nominal voltage	U_o	8.2 V (R_i approx. 1 k Ω)
Operating voltage	U_B	5 ... 25 V
Switching frequency	f	0 ... 2000 Hz
Hysteresis	H	0.05 ... 0.65 mm

Design data

Current consumption	
Measuring plate not detected	≥ 3 mA at nominal voltage
Measuring plate detected	≤ 1 mA at nominal voltage

Functional safety related parameters

MTTF _d	9060 a
Mission Time (T_M)	20 a
Diagnostic Coverage (DC)	0 %

Ambient conditions

Ambient temperature	-25 ... 100 °C (-13 ... 212 °F)
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Mechanical specifications

Connection type	flexible leads PTFE , 500 mm
Core cross-section	0.14 mm ²
Housing material	PBT
Degree of protection	IP67

General information

Use in the hazardous area	see instruction manuals
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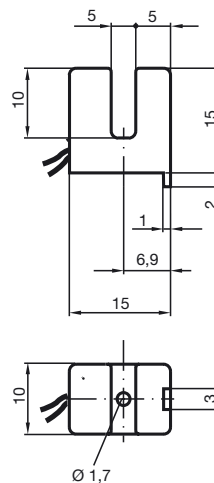
Compliance with standards and directives

Standard conformity	
NAMUR	EN 60947-5-6:2000 IEC 60947-5-6:1999
Standards	
	EN 60947-5-2:2007 EN 60947-5-2/A1:2012 IEC 60947-5-2:2007 IEC 60947-5-2 AMD 1:2012

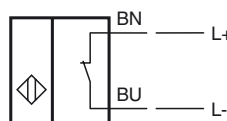
Approvals and certificates

CCC approval	CCC approval / marking not required for products rated ≤ 36 V
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Dimensions



Electrical Connection



Data for application in connection with hazardous areas

Equipment protection level	Ga , Gb , Da , Mb
Equipment protection level Ga	
Type of protection	intrinsic safety
CE marking	 0102
Certificates	
Appropriate type	SJ5-...-N...
ATEX certificate	PTB 99 ATEX 2219 X
ATEX marking	 II 1G Ex ia IIC T6...T1 Ga
Standards	EN 60079-0:2012+A11:2013 , EN 60079-11:2012
IECEx certificate	IECEx PTB 11.0091X
IECEx marking	Ex ia IIC T6 Ga
Standards	IEC 60079-0:2011 , IEC 60079-11:2006 , IEC 60079-26:2006
Effective internal capacitance C_i	≤ 50 nF A cable length of 10 m is considered.
Effective internal inductance L_i	≤ 250 μ H A cable length of 10 m is considered.
Maximum permissible ambient temperature T_{amb}	Also observe the maximum permissible ambient temperature stated in the general technical data. Keep to the lower of the two values.
for ATEX	<p>at $U_i = 16$ V , $I_i = 25$ mA , $P_i = 34$ mW , T6 : 56 °C (132.8 °F) T5 : 68 °C (154.4 °F) T4 : 96 °C (204.8 °F) T3 : 96 °C (204.8 °F) T2 : 96 °C (204.8 °F) T1 : 96 °C (204.8 °F)</p> <p>at $U_i = 16$ V , $I_i = 25$ mA , $P_i = 64$ mW , T6 : 49 °C (120.2 °F) T5 : 61 °C (141.8 °F) T4 : 89 °C (192.2 °F) T3 : 89 °C (192.2 °F) T2 : 89 °C (192.2 °F) T1 : 89 °C (192.2 °F)</p> <p>at $U_i = 16$ V , $I_i = 52$ mA , $P_i = 169$ mW , T6 : 28 °C (82.4 °F) T5 : 40 °C (104 °F) T4 : 68 °C (154.4 °F) T3 : 68 °C (154.4 °F) T2 : 68 °C (154.4 °F) T1 : 68 °C (154.4 °F)</p> <p>at $U_i = 16$ V , $I_i = 76$ mA , $P_i = 242$ mW , T6 : 13 °C (55.4 °F) T5 : 25 °C (77 °F) T4 : 53 °C (127.4 °F) T3 : 53 °C (127.4 °F) T2 : 53 °C (127.4 °F) T1 : 53 °C (127.4 °F)</p>
for IECEx	<p>at $U_i = 16$ V 25 mA 34 mW , T6 : 56 °C (132.8 °F) T5 : 68 °C (154.4 °F) T4 : 96 °C (204.8 °F) T3 : 96 °C (204.8 °F) T2 : 96 °C (204.8 °F) T1 : 96 °C (204.8 °F)</p> <p>at $U_i = 16$ V , $I_i = 25$ mA , $P_i = 64$ mW , T6 : 49 °C (120.2 °F) T5 : 61 °C (141.8 °F) T4 : 89 °C (192.2 °F) T3 : 89 °C (192.2 °F) T2 : 89 °C (192.2 °F) T1 : 89 °C (192.2 °F)</p> <p>at $U_i = 16$ V , $I_i = 52$ mA , $P_i = 169$ mW , T6 : 28 °C (82.4 °F) T5 : 40 °C (104 °F) T4 : 68 °C (154.4 °F) T3 : 68 °C (154.4 °F) T2 : 68 °C (154.4 °F) T1 : 68 °C (154.4 °F)</p> <p>at $U_i = 16$ V , $I_i = 76$ mA , $P_i = 242$ mW , T6 : 13 °C (55.4 °F) T5 : 25 °C (77 °F) T4 : 53 °C (127.4 °F) T3 : 53 °C (127.4 °F) T2 : 53 °C (127.4 °F) T1 : 53 °C (127.4 °F)</p>

Equipment protection level Gb

Type of protection	intrinsic safety	
CE marking	CE 0102	
Certificates		
Appropriate type	SJ5-...-N...	
ATEX certificate	PTB 99 ATEX 2219 X	
ATEX marking	Ⓔ II 1G Ex ia IIC T6...T1 Ga	
Standards	EN 60079-0:2012+A11:2013 , EN 60079-11:2012	
IECEX certificate	IECEX PTB 11.0091X	
IECEX marking	Ex ia IIC T6 Ga	
Standards	IEC 60079-0:2011 , IEC 60079-11:2006	
Effective internal capacitance	C_i	≤ 50 nF A cable length of 10 m is considered.
Effective internal inductance	L_i	≤ 250 μ H A cable length of 10 m is considered.
Maximum permissible ambient temperature T_{amb}	Also observe the maximum permissible ambient temperature stated in the general technical data. Keep to the lower of the two values. at $U_i = 16$ V , $I_i = 25$ mA , $P_i = 34$ mW , T6 : 73 °C (163.4 °F) T5 : 88 °C (190.4 °F) T4 : 100 °C (212 °F) T3 : 100 °C (212 °F) T2 : 100 °C (212 °F) T1 : 100 °C (212 °F) at $U_i = 16$ V , $I_i = 25$ mA , $P_i = 64$ mW , T6 : 66 °C (150.8 °F) T5 : 81 °C (177.8 °F) T4 : 100 °C (212 °F) T3 : 100 °C (212 °F) T2 : 100 °C (212 °F) T1 : 100 °C (212 °F) at $U_i = 16$ V , $I_i = 52$ mA , $P_i = 169$ mW , T6 : 45 °C (113 °F) T5 : 60 °C (140 °F) T4 : 89 °C (192.2 °F) T3 : 89 °C (192.2 °F) T2 : 89 °C (192.2 °F) T1 : 89 °C (192.2 °F) at $U_i = 16$ V , $I_i = 76$ mA , $P_i = 242$ mW , T6 : 30 °C (86 °F) T5 : 45 °C (113 °F) T4 : 74 °C (165.2 °F) T3 : 74 °C (165.2 °F) T2 : 74 °C (165.2 °F) T1 : 74 °C (165.2 °F)	

Equipment protection level Da

Type of protection	intrinsic safety	
CE marking	CE 0102	
Certificates		
Appropriate type	SJ5-...-N...	
ATEX certificate	PTB 99 ATEX 2219 X	
ATEX marking	Ⓔ II 1D Ex ia IIIC T135°C Da	
Standards	EN 60079-0:2012+A11:2013 , EN 60079-11:2012	
Effective internal capacitance	C_i	≤ 50 nF A cable length of 10 m is considered.
Effective internal inductance	L_i	≤ 250 μ H A cable length of 10 m is considered.
Maximum permissible ambient temperature T_{amb}	Also observe the maximum permissible ambient temperature stated in the general technical data. Keep to the lower of the two values. at $U_i = 16$ V , $I_i = 25$ mA , $P_i = 34$ mW : 100 °C (212 °F) at $U_i = 16$ V , $I_i = 25$ mA , $P_i = 64$ mW : 100 °C (212 °F) at $U_i = 16$ V , $I_i = 52$ mA , $P_i = 169$ mW : 89 °C (192.2 °F) at $U_i = 16$ V , $I_i = 76$ mA , $P_i = 242$ mW : 74 °C (165.2 °F)	

Equipment protection level Mb

Type of protection	intrinsic safety	
Certificates		
Appropriate type	SJ5-...-N...	
IECEX certificate	IECEX PTB 11.0091X	
IECEX marking	Ex ia I Mb	
Standards	IEC 60079-0:2011 , IEC 60079-11:2006	
Effective internal capacitance	C_i	≤ 50 nF A cable length of 10 m is considered.
Effective internal inductance	L_i	≤ 250 μ H A cable length of 10 m is considered.
Maximum permissible ambient temperature T_{amb}	Also observe the maximum permissible ambient temperature stated in the general technical data. Keep to the lower of the two values. at $U_i = 16$ V , $I_i = 25$ mA , $P_i = 34$ mW : 100 °C (212 °F) at $U_i = 16$ V , $I_i = 25$ mA , $P_i = 64$ mW : 100 °C (212 °F) at $U_i = 16$ V , $I_i = 52$ mA , $P_i = 169$ mW : 89 °C (192.2 °F) at $U_i = 16$ V , $I_i = 76$ mA , $P_i = 242$ mW : 74 °C (165.2 °F)	

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